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Cotton Production in Zimbabwe

While cotton is indigenous to Zimbabwe, it was not grown as a commercial crop prior to the twentieth century. In 1919, cotton seeds were distributed to large-scale farmers in Zimbabwe and the Empire Cotton Growing Corporation offered substantial prizes to encourage cotton production. In the subsequent few years, significant acreages of cotton were grown (Muir, 1981a). In 1924 the Cotton Breeding Station was established at Kadoma. World cotton prices rose rapidly in the mid-1920's and variety testing at the Cotton Breeding Station indicated that the American variety Bancroft was suitable for local conditions. A minor boom in Zimbabwean cotton production followed with good yields and high prices. The boom, however, was short-lived as a rapid build-up of jassids (sucking insects which affect both yield and quality) devastated the crop. The area planted to cotton rose from 55 hectares in 1922 to 25 000 hectares in 1927. Jassid attack reduced plantings to 540 hectares in 1928 (Muir 1981a).

In the late 1920's, the Cotton Breeding Station introduced the jassid-resistant variety U4 but, in spite of continuing high prices, total production remained low. Tobacco and maize technology had improved significantly by the mid-1920's and large-scale farmers had little incentive to switch back to cotton from these crops. The relative profitability of tobacco and maize has continued to dominate cotton production in the large-scale sub-sector. There was little official encouragement of smallholder production and plantings were negligible. With poor maize and tobacco prices in the early 1930's, cotton area planted rose to 3 634 hectares in 1931 and fluctuated around this level until the 1950's depending on the relative prices of the three commodities (Muir, 1981a).

The next major change in cotton technology came in 1946 with the commencement of insecticide trials. The Cotton Research Institute, as the Breeding Station had now become, led research in Africa into modern insect control techniques in cotton. A new variety, Albar, which had jassid and bacterial blight resistance as well as high quality was also introduced at this time. The developments led to a short-lived increase in cotton production in the early 1950's. However, the boom in tobacco production which started in the mid-1950's caused the cotton area to fall once again. In 1965, the Rhodesian (now Zimbabwe) government declared itself independent of the United Kingdom. As a consequence, the government was declared illegal and trade sanctions were imposed against it. By this time, Zimbabwe had established itself as an important African agricultural exporter and the export of agricultural commodities accounted for about half of all foreign exchange earnings. Tobacco sales constituted 80 per cent of total agricultural exports (Agricultural Marketing Authority, 1982b). The elimination of traditional export markets had a devastating effect on the agricultural economy. The government, while partially supporting tobacco prices initiated a major agricultural diversification exercise. The area planted to cotton rose to 75 000 hectares in 1968 and the estimated area planted in 1982 was 113 500 hectares. Whereas in 1965 cotton accounted for 1 per cent of commercial agricultural output and was not exported, by 1980 it accounted for 10 per cent of commercial agricultural output and was Zimbabwe's second largest agricultural export.

TABLE 1

Value of Commercial Agricultural Output in Zimbabwe by Commodity

Commodity	1965		1975		1980	
	Z\$ (m)	%	Z\$ (m)	%	Z\$ (m)	%
Tobacco	71	57	59	17	99	17
Cotton	1	1	32	9	56	10
Sugar	12	10	55	16	91	15
Coffee	..	..	4	..	12	2
Maize	10	8	59	17	82	14
Wheat	..	..	13	4	21	4
Soyabeans	..	..	3	1	14	2
Beef	19	15	60	17	88	16
Pigs	3	2	5	2	7	1
Milk	5	4	14	4	27	5
Other	3	3	45	13	82	14
TOTALS	124	100	349	100	579	100

.. Insignificant (less than 0,5 per cent)

Source: Central Statistical Office, Zimbabwe.

(Note: Z\$1.00 is equivalent to about US\$1.02 (March 1983))

TABLE 2

Zimbabwe: Agricultural Exports

Commodity	1965		1975		1980	
	'000t	Z\$ (m)	'000t	Z\$ (m)	'000t	Z\$ (m)
Tobacco	119	93	56	65	93	118
Cotton	-	-	33	19	54	57
Sugar ^a	277	8	157	43	166	47
Coffee/Tea	1	...	8	7	9	13
Maize	8	1	842	47	63	7
Meat ^b	16	8	41	24	13	14
Hides	6	1	9	2	7	3
Oilseed ^c	-	-	15	2	2	1
TOTALS	427		1 161	209	407	260

Notes: ... Less than \$1m

(a) Sugar: raws and refined

(b) Fresh, frozen, chilled

(c) Cottonseed, soyabeans, groundnuts

Source: Central Statistical Office, Zimbabwe.

(Note: Z\$1.00 is equivalent to about US\$1.02 (March 1983))

Associated with the growth in overall cotton production has been a continuing rise in cotton production amongst smallholders. The value of cotton as a smallholder cash crop had been appreciated by policy-makers by the late 1970's and active efforts were made to encourage its production in the smallholder sub-sector. The outcome was an exceptional response by smallholders. Total smallholder production more than doubled to 77 023 tonnes between the 1980 and the 1981 growing seasons. The estimate for the 1983 season suggests further increases from the smallholder sub-sector (Agricultural Marketing Authority, 1982a). To a considerable extent, the remarkable development of the cotton industry in Zimbabwe is the outcome of a highly sophisticated and responsive marketing system unique amongst cotton producing nations.

The Zimbabwe Cotton Marketing Board

Cotton marketing has, from the outset, been closely linked to research. In 1936 the Cotton Research and Industry Board was established with responsibility for both cotton research and marketing. The Board operated ginneries at Bindura, Chinhoyi and Kadoma. In 1942 it was authorised to establish cotton, textile and allied industries. The first cotton spinning mill was established in 1943 and a second in 1951 (Weinman). Responsibility for cotton marketing subsequently passed in 1960 to a committee of the Grain Marketing Board until, in 1969, the Cotton Marketing Board (CMB), as currently constituted, was established. The Cotton Marketing Board today is one of four boards operating under the Agricultural Marketing Authority.

The Agricultural Marketing Authority (AMA) was established in 1967 and subsequently assumed responsibility for the Cold Storage Commission, the Dairy Marketing Board, the Grain Marketing Board and the Cotton Marketing Board. Each of these four boards is a statutory or 'parastatal' corporation, established in terms of specific legislation, for the marketing of the agricultural products in which, by law, it is required to trade. Under the provisions of the Agricultural Marketing Authority Act (1967) and the separate legislation of the four marketing bodies, the AMA constitutes the Marketing Boards and the Chairmen and members of the AMA are the Chairman and Members of the Marketing Boards (Agricultural Marketing Authority, 1981). Besides constituting the four marketing boards, the AMA advises the Minister of Agriculture as to the pricing and marketing of commodities handled by the four boards and borrows on behalf of the boards such funds as are required to meet commitments.

The Cotton Marketing Board was established through the Cotton Marketing and Control Act (Chapter 106) in 1969. The CMB operates as a non-profit retaining organisation, selling its products to the best advantage and returning to growers the profit after deduction of marketing costs. The Board operates under the control of a general manager who is advised by the Cotton Committee of the AMA. Membership of this committee is drawn from Members and staff of the AMA, farmers' unions and the CMB General Manager. A representative of the Ministry of Agriculture attends as an observer (Cotton Marketing Board, 1982a).

The Board's fixed capital is provided by non-redeemable loans from the Ministry of Finance on which it pays interest according to the current levels determined by government. Fixed assets are written off gradually according to an agreed formula. Seasonal finance to bridge the gap between paying the farmer for seed cotton and the eventual sale of the lint, is arranged by the AMA. The AMA issues its own bonds and bills to the public to cover such costs or else borrows from commercial banks. The 1981 Report and Accounts of the AMA show that annual short-term borrowings by the AMA peaked at Z\$243 million in 1980 and the total trading expenditures of the four boards under its control was Z\$425 million (Agricultural Marketing Authority, 1981). With the recovery of agriculture following independence, the financial role of the AMA has expanded considerably. By March 1983, annual

short-term borrowings stood at some Z\$28 thousand million (Weller, 1983). Funds borrowed by the AMA are re-lent to its constituent marketing boards who are the sureties and co-principal debtors for the repayment of the moneys borrowed by the Authority and for the interest payable. This procedure enables the four marketing boards to effect substantial economies in the cost of operating finance to the benefit of agricultural producers.

The CMB's responsibilities and functions include:

- (1) the purchase and storage of all seed cotton grown in Zimbabwe;
- (2) processing or 'ginning' the cotton and marketing the resulting products of lint and cottonseed;
- (3) ensuring the adequate supply of certified planting seed for all cotton growers in Zimbabwe.

In order to enable the CMB to carry out these functions efficiently, appropriate legislation has been passed to control a variety of aspects of cotton production. All cotton growers must register with the CMB and large producers must adhere to a delivery quota system to ensure orderly throughput in the ginneries. Grading standards are classified and there is a system established to obtain crop and other information from both growers and the trade. The varieties of cotton that may be grown are controlled by the Board. Under the Seeds Act (Chapter 133), the Board is a Certifying Agent for the purposes of the seed certification scheme. It also acts for the Zimbabwe Government in the collection of statutory levies from growers (Cotton Marketing Board, 1982a).

The CMB operates six ginnery depots (Kadoma, Chegutu, Banket, Glendale, Tafuna and Mutare) to receive and process cotton from growers. A further private ginnery at Triangle operates on an agency basis for the Board. For growers in the remote areas of the country, there are a number of transit depots where cotton is received and graded. Cotton delivered to these depots is bulked and later delivered to the appropriate ginnery for processing.

Cotton marketing in Zimbabwe involves an unusual degree of co-operation and co-ordination between growers; the private sector, the state-run Cotton Marketing Board and the Agricultural Research and Extension Services. Cotton research is undertaken by the Ministry of Agriculture at the Cotton Research Institute at Kadoma. The large-scale growers' organisation, the Commercial Cotton Growers' Association (CCGA) contribute directly to agricultural research on cotton. The CCGA, together with the growers' organisations representing various groups of smallholder producers liaise closely with the extension services. There is representation of both large-scale and smallholder producer interests on the CMB. Uniquely the CCGA has set up its own training institute, the Cotton Training Centre at Kadoma, which is one of the most advanced institutions of its kind in Africa. The privately-run Zimbabwe Cotton Corporation (ZCC) markets the export cotton crop as the agent of the CMB. Co-ordinating all these activities is the Cotton Marketing Board.

The Zimbabwe Cotton Marketing System

Research: Cotton research started at Kadoma in 1924 with the opening of the Cotton Breeding Station as a co-operative venture between the Southern Rhodesia (now Zimbabwe) Government and the Empire Cotton Growing Corporation. The Station was taken over by the Cotton Research and Industry Board in 1942 and in 1955 was transferred to the national agricultural research service. The station today is the Cotton Research Institute run by the Ministry of Agriculture. The research programmes include plant breeding, pathology, agronomy, physiology and pest control. To ensure close links with the growers, a cotton extension specialist is based at the Institute. With the help of extension staff, a large number of farm trials of varieties and cultural techniques are sited throughout the major cotton growing areas of the country. The cotton breeding programme is developed in close co-operation with the ZCC and the CMB, which advise researchers on the fibre requirements of the international market. Annual meetings are held to review not only the agronomic characteristics of new varieties but also features such as fibre length and strength, maturity, fineness, spinning performance and uniformity. Where improved varieties are approved for distribution by the Cotton Marketing Board, the CMB selects growers to participate in its seed multiplication scheme. These growers plant the new strain for sale to the Board which, in turn, distributes the seed to growers the following season. This carefully co-ordinated system ensures that the producers of cotton are kept abreast with the requirements of the international cotton market. Since some 70 per cent of the cotton is exported the need to adjust effectively to international market trends is essential.

Training: Investigations in the early 1970's indicated that cotton pest management on farms lagged well behind research findings. In 1971 cotton training courses for farmers were started in order to familiarise producers with the latest research developments. The CCGA took over responsibility for running these courses in 1974 and set up the Cotton Production Training Unit at the Cotton Research Institute. In 1979 a farm adjoining the Institute was purchased by the CCGA and the Cotton Training Centre established. This Centre has the following objectives:

- (1) to establish a permanent institution designed specifically to facilitate training and advisory services of the highest calibre for cotton producers;
- (2) to provide training, advisory and other pertinent services to meet the requirements of cotton producers in their endeavour to improve their cotton production, productivity and profitability;

- (3) to ensure that the future development of cotton production is serviced with the correct and essential production advice.

Courses are run on production, pest control and harvesting for large and small producers, farm labourers and extension workers. A further aspect of training, particularly relevant to marketing, are courses for farmers run by the agricultural extension service, the CMB and the ZCC to explain the grading system used for cotton. This assists the farmer to manage and deliver his crop in such a manner as to achieve the best financial returns.

TABLE 3

Cotton Training Centre: People Trained Annually

	<u>1972</u>	<u>1977</u>	<u>1981</u>
Pest Control	141	605	284
Picking	-	351	182
Production	-	-	494
TOTALS	141	956	960

Source: Commercial Cotton Growers' Association.

Grading and Export: In the late 1950's, Neel P. Hunt (Private) Limited of Harare contracted with the Grain Marketing Board to export the small marketable surplus of cotton produced in Zimbabwe. In 1966 Neel P. Hunt formed a partnership with Anderson Clayton and Company (ACCO); the partnership was known as the Rhodesian Cotton Corporation. ACCO at that time was the foremost cotton grower, ginner and service organisation in the world. Initially the technical operation of the Corporation was undertaken by specialists recruited from Liverpool, which was at that time, the centre of the international cotton trade. A vigorous programme of training of local staff was commenced and today the Corporation, which has become the Zimbabwe Cotton Corporation, is almost entirely locally staffed. The ZCC is the sole marketer of Zimbabwean export cotton as the export marketing agent of the CMB. Export of cotton is reserved to the CMB and, while the ZCC, as the Board's agent, is the marketer, absolute control of all cotton sales lies with the CMB. The national headquarters of the Corporation are in Harare and is fully equipped with laboratory and technical facilities to international standards. Its marketing offices are linked on a 24-hour basis to an international network of reputable cotton agents and specialists (The Herald).

The ZCC staffs and operates the cotton grading depots throughout the country. Seed cotton standards are set by legislation and the technical staff of the Corporation interpret this legislation into the practical grading and buying system operated by the CMB. The outcome is a unique quality control system which ensures that Zimbabwe cotton consistently achieves top prices on the world market. The ZCC is also responsible for implementing the marketing strategy established by the CMB. It undertakes the technical appraisal and

application of cotton lint against specific contracted requirements and guarantees.

Purchasing and Processing: The purchasing and processing of seed cotton is the responsibility of the CMB. Farmers purchase from the Board seed for the coming crop. Planting takes place in October to November with the start of the seasonal rains. In January all large-scale growers are required to submit a report on the area planted to cotton and a first estimate of crop production is made. Large-scale growers are required to produce a second return in March indicating their likely sales. These data, together with estimates of smallholder production, are used to forecast the coming harvest. This enables the CMB to set up its delivery quota system, reception and ginnery arrangements, and forward lint sales well in advance of the arrival of the harvest.

Harvest commences in April and the farmers begin deliveries of cotton to their nearest depot. Cotton is reaped and packed into special cotton packs which are hired from the CMB for a small fee. Each grower sews onto each pack a calico label marked with his registration number. From delivery, the grower's number is the sole identification of the cotton so as to obviate any bias in the grading process. When the cotton is delivered to the depot, it is classified by ZCC graders into one of four classes. The farmer is then paid out, through a computerised accounting system, normally within eight days of delivery.

Each grower receives a receipt for each pack indicating the classification of that pack. Should he disagree with the grading he can, on paying a small deposit, demand a review. A sample of all packs graded below the top priced grades is kept for sufficient period to allow growers to appeal against grading. Where a grade is in dispute, the appropriate sample is examined independently by a classifier and an experienced cotton farmer. The origin of the sample and its assigned grade are unknown to the reviewers to ensure objectivity. If the review team cannot achieve consensus, the sample is referred to a member of the CMB staff personally designated by the Minister of Agriculture to settle such disputes. If the original grading is confirmed, the grower loses his deposit. If the cotton is upgraded, the grower gets back his deposit and is paid out the incremental value. Where the cotton is downgraded, the grower loses his deposit and the debit is deducted from future cotton sales.

Disputes, however, are minimal. Firstly the grading system is simple and designed to encourage appropriate production and harvesting practices. The four grades are based on cotton colour and cleanliness (which are closely linked to reaping practices) and staining (which is caused by husbandry factors or insect damage). Through courses at the Cotton Training Centre and other extension exercises, the growers are shown how to produce and deliver cotton of consistent quality and are taught to understand the grading system and its operation. Graders themselves are constantly inspected during the buying period by roving experienced lint classifiers who visit grading depots on a frequent but random basis.

Once the cotton has been graded for payout to the farmer, a strict and unique quality control system comes into operation. The graders employed by the ZCC to classify the cotton for purchase by the CMB are also trained and skilled lint classifiers. Each pack is then classified into one of about forty "stack" numbers by appraising the pack in terms of its market characteristics of fibre length, strength, fineness and colour. The appropriate stack number is marked on the pack and it is stored in stacks consisting only of packs with identical stack numbers. This system is unique to Zimbabwe. It is the ability of the CMB through this system to produce lint of consistent and specified quality that enables Zimbabwe to achieve excellent prices for export cotton (Cotton Marketing Board, 1982a).

By world standards, Zimbabwe is a small producer. Although both cotton production and consumption grew steadily during the late sixties and early seventies, recession since 1974 has depressed demand. Latest reports indicate that production and consumption are once more in balance but there remains a considerable international stockpile of unsold cotton, particularly in the United States, which can be expected to depress market prices over the next few years (Agricultural Marketing Authority, 1982a). Zimbabwe, however, has not only managed consistently to obtain above-average prices for its crop but also has backlog of unsold cotton to dispose of in future years.

TABLE 4

Estimated Cotton Production in Specified Countries

(million bales of 480 lb.)

	<u>1980</u>	<u>1981</u>	<u>1982</u>
Total World Production	65.28	71.35	66.66
U.S.A.	11.12	15.65	11.33
Mexico	1.61	1.44	0.90
Greece	0.55	0.58	0.44
Tanzania	0.27	0.21	0.18
Turkey	2.26	2.23	2.11
China	12.43	13.63	14.24
India	5.97	6.55	6.32
Pakistan	3.28	3.36	3.36
USSR	13.93	13.39	13.50
Zimbabwe	0.33	0.26	0.38

Source: Cotton World.

The CMB's typical customer is producing a high quality, fine, strong yarn which is usually 100 per cent cotton. This yarn is then woven or knitted into high quality fabrics using fully automated and capital intensive equipment (Cotton Marketing Board, 1982b). Such customers require, and will pay for, lint of consistent and known characteristics. The CMB has located a specific market segment for its product and does not compete against the enormous production of such countries as the United States and the USSR. The entire marketing system - grower, researcher, extension worker, buyer and exporter - is designed so as to meet the requirements of this specialist market.

The line between the ginnery and the spinner is kept as short as possible. The Board operates through a single broker, the ZCC. The broker is an integral part of the Zimbabwe cotton industry and, therefore, acts as a highly efficient medium through which Zimbabwe's cotton can be sold to spinners producing high-quality, high value products. The various buyers' requirements are represented by specified 'mill types' of cotton when a contract is concluded. Whenever a shipment is required to meet the delivery terms of a given contract, the ZCC

selects the appropriate ginnery and stack. The stack is then ginned to produce lint to match the specifications of the mill type. The lint is baled and each bale is automatically sampled. The samples are analysed both at the ginnery and at the central quality control laboratories in Harare to determine whether the lint meets the requirements of the contract for which it was intended.

The system of quality control employed by the CMB is unique amongst cotton producing nations. The quality control starts with the pre-ginning classification of seed cotton through the selection of uniform stacks for contract to the analysis and examination of lint samples. The Zimbabwe system ensures that seed cotton of consistent quality is ginned for each contract so as to yield a lint of known and uniform specification (Cotton Marketing Board, 1982b). This system contrasts with that employed in other nations where the lint is classified only after ginning, thus yielding lint of significantly more variable quality.

After ginning, the 'ginned seed' or cotton-seed is sold to the oil expressing industry. Cotton-seed contains about 20 per cent edible oil and over 50 per cent of Zimbabwe's supply of edible oils are derived from cotton. The residue, after the oil has been extracted, is known as cotton-seed meal and is a valuable protein source for feeding ruminant livestock. Cotton production thus contributes directly to human nutrition and to the productivity of Zimbabwe's important livestock industries.

Cotton Planting Seed: The Cotton Marketing Board is the sole seller of cotton-seed for planting as well as being the sole buyer of seed cotton. The objective is to guarantee the varietal purity of the lint in the highly competitive international market (Cotton Marketing Board, 1982c). The Board operates a cotton seed multiplication scheme under the Seeds Act and subsidiary legislation. The Act lays down appropriate procedures for field and management operations, ginning, delinting, bagging, identification, seed analysis and sale. The Cotton Seed Multiplication sub-committee of the CMB is responsible for the selection of growers who contract to produce cotton seed.

Once an improved strain of cotton is accepted for release by the Ministry of Agriculture, a small quantity of seed is issued by the Ministry to a selected grower and planted for bulking up. This first 'Embryo Bulk' crop is strictly supervised by the Ministry of Agriculture. Any distinguishable off-types are eradicated before harvest and the resultant crop is specially ginned to produce Breeders Seed. The Breeders Seed is released to the CMB who issue it to selected foundation growers for multiplication. Each grower plants about eight hectares of Breeders Seed in order to produce Foundation Seed. The crop must be grown under irrigation, on land not previously planted to cotton and at least 100 metres from any other cotton crop. The resultant Foundation Seed is then issued to certified growers the following season who plant about 50 hectares to produce Certified Seed. Irrigation facilities, while desirable, are not essential for the production of Certified Seed but all other requirements relevant to Foundation growers must be met (Cotton Marketing Board, 1982c).

The CMB ensures that growers are geographically dispersed as a precaution against losing the seed crop through environmental or other exogenous factors. Field staff of the Board check and rogue all seed crops during the season and ensure that growers meet the standards of management laid down under the Seeds Act. The seed cotton is delivered to the Glendale depot of the Board and stacked in special areas. Before ginning and delinting the seed cotton, all machinery is thoroughly cleaned. Samples of the delinted seed are tested for germination in the government Seed Testing Laboratory. The average germination achieved is around 90 per cent

although the minimum standard is 70 per cent. Once certificates are issued by the testing laboratory, the cotton seed is distributed to depots for sale, through the Board, to growers. Seed that fails to meet the required standards is sold for oil expressing.

Cotton in the Zimbabwe Economy

The 1981 cotton harvest was the highest recorded in the history of cotton production in Zimbabwe. Farmers sold 199 500 tonnes of cotton to the Board and received Z\$75.9 million. The harvest was an 8.4 per cent increase on the previous season. Drought has depressed yields for the 1982 season but the upward trend in cotton production, especially amongst smallholders continues. 61.1 per cent of cotton delivered in 1981 was from some 750 large-scale growers with the remainder being delivered by 42 000 smallholders. Smallholder production achieved marginally higher average value of 37.7 cents per kilogram than large-scale production. This is related to the careful hand-picking and sorting done by family members in the smallholder sub-sector (Cotton Marketing Board, 1982d).

The 1981 crop of seed cotton when ginned yielded 71 052 tonnes of cotton lint (35.6 per cent) and 125 000 of cotton seed, mainly for oil extraction (62.6 per cent). About 5 000 tonnes of the cotton seed was processed to provide seed for the subsequent crop and the remainder was sold to local oil expressors for Z\$12 million. Of the lint, 21 per cent was purchased by Zimbabwean spinning mills for a sum of over Z\$16 million. The remainder was exported to eight nations and earned Z\$80 million in foreign currency. Running costs of the Board in 1981 were Z\$13.5 million which covered the expenses of processing, wrapping and storing seed cotton and its products together with field, administrative and finance costs. Freight and other marketing costs associated with selling and delivering cotton to export markets absorbed a further Z\$12 million (Cotton Marketing Board, 1982d). Current estimates suggest that the cotton industry employs 4 500 Zimbabweans. Foreign currency earnings derived from cotton lint exports account for about 7 per cent of total national exports. The processed textile industry is also actively involved in exporting. Latest figures show that in 1980 the processed textile industry earned Z\$12.4 million or 1.6 per cent of total exports (Herald).

Today cotton is the biggest smallholder cash crop in Zimbabwe. It is a high value crop which is suited to the remoter and more marginal rainfall areas of the country. The numbers of registered smallholders have grown from negligible proportions in the early 1960's to nearly 80 000 in 1983. Smallholder production now accounts for well over a third of the total crop. Current estimates suggest that a typical smallholder can earn a profit of Z\$200 per hectare from cotton production and most smallholders plant two or more hectares annually (The Herald). The Cotton Training Centre estimate that an average smallholder family could manage 5 hectares of cotton successfully. Significant potential remains for the expansion of the smallholder crop. While yields per hectare in the smallholder sector are generally well below those of large-scale producers, there are highly competent and efficient smallholders. The CMB estimate that with proper instruction and support, the typical smallholder could double the income earned per hectare of cotton planted without significantly increasing the labour inputs required to produce the crop (Weller, 1983). The expansion of the cotton industry and the development of the neglected smallholder areas of Zimbabwe are integrally linked.

Analysis

The Cotton Marketing Board operations provide a valuable model for appropriate state intervention in an agricultural marketing system. The role of the Cotton Marketing Board is to ensure the efficient flow of harvested cotton from producer

to the spinning mill. Given the size of the Zimbabwe crop by world standards and the continuing stockpile of unsold cotton held by some of the largest producers, it would be impossible for Zimbabwe to be other than a 'price-taker' in the world market for average or low quality lints.

The strategy of the CMB, therefore, has been to ensure that Zimbabwe can consistently meet the requirements of a specialised segment of the world market; that requiring lints of known and reliable characteristics for the production of high quality yarns. The use of a single broker enables virtually a personalised service to be provided to spinners of such yarns. The broker, the Zimbabwe Cotton Corporation, knows both the Zimbabwe cotton industry and the appropriate buyers of lint in the highly competitive world market. The grading and quality control system is designed both to encourage producers to adopt better husbandry practices and to ensure that spinners get exactly the lint they require. The agronomic research programme and extension and training exercises are designed in close collaboration with marketing staff. There is a rapid and efficient transfer of market information from the consumer to the field.

The CMB could manage directly all aspects of the cotton marketing system from field research, to extension and credit to farmers, to eventual sale to the spinning mill. Experience elsewhere suggests the limitations of this route. The CMB approach has been to control the key points in the marketing system and to co-ordinate the activities of the other agencies involved in the production and disposal of cotton. The CMB, through its monopoly role as certified cotton seed purchaser and distributor, controls completely the varieties of cotton grown in Zimbabwe. It does not, however, grow the cotton seed itself. This activity is contracted to private growers under close supervision from the Board. As the sole buyer of cotton, it ensures that all cotton lint offered for sale from Zimbabwe has been purchased and processed according to known and laid-down standards.

Agronomic research is undertaken by the Ministry of Agriculture under guidance from the Board, the growers and the Zimbabwe Cotton Corporation. The Board is involved in this research programme but does not need to control it. Similarly, extension and credit programmes are not operated by the Board although, through its involvement in the cotton industry, the Board's advice and assistance in the design of those programmes is sought by the agencies involved. The Board does, however, become involved directly in extension exercises explaining the work of the Board, particularly the grading and quality control systems, to farmers and others associated with the cotton industry.

Finally, the implementation of the grading and quality control system and the selling of cotton lint to overseas buyers is contracted out to private industry. The Board retains total control over these activities, as the Zimbabwe Cotton Corporation acts only as the Board's agent; not as principal, in these activities. The selling of cotton, in the market segment within which Zimbabwe operates, is highly competitive. The commodity is being sold to firms operating in a high-technology environment where business acumen is essential to success. The considered use of a private firm to act as broker enables the Board to tap the flexibility of private enterprise within the policy environment of a state corporation. While it has been argued that the use of more than one broker could yield advantages in the selling of lint, it is unlikely that the existing quality control system could continue to operate with more than a single broker. The current system requires that the ZCC, which has responsibility for selling the lint should also manage, but not control, the grading and quality control system. If more than a single broker was involved, the CMB would need to take over the operation of this system although the brokers involved would necessarily have to do their own testing and quality control to meet contract requirements. Such duplication would certainly increase costs. Under current arrangements, the

ZCC has a clear incentive to maintain the integrity and efficiency of the grading and quality control system. The more reliable the system, the more straightforward becomes the activity of selling the lint. If grading and quality control become the responsibility of a third party, such as the CMB, the direct link between the activities of quality control and selling would be lost. The outcome would almost certainly be that Zimbabwe would lose its competitive edge in the high-quality high-value yarn market and would need to dispose of its cotton in the lower-value, and overcrowded market for average to low quality grades. The farmer, and the nation, would be poorer in consequence. Even if the quality control system was maintained without significant extra administration costs under a multi-broker arrangement, the price received by Zimbabwean farmers would still almost certainly fall. Zimbabwean cotton is sold in a relatively small, specialised segment of the international cotton market. The current, single-broker system provides the Zimbabwean producer important market power within the segment. The likely result of a multi-broker system would be that the brokers selling Zimbabwean cotton would compete with each other within this market segment, thus bringing prices down.

Adequate safeguards exist to prevent abuse of the current marketing arrangements and the results, neo-classical theory notwithstanding, suggest that the Zimbabwe Cotton Marketing Board has developed remarkably successful marketing system. The system is sensitive to the needs of both growers and the market and is designed to ensure that farmers reap the maximum financial returns from cotton sold to the Board. The history of the past few decades is testimony to the success of the approach.

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List of acronyms

ACCO	:	Anderson Clayton and Company
AMA	:	Agricultural Marketing Authority
CCGA	:	Commercial Cotton Growers' Association
CMB	:	Cotton Marketing Board
ZCC	:	Zimbabwe Cotton Corporation



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